

Nevada Division of Water Planning

Nevada State Water Plan

PART 1 — BACKGROUND AND RESOURCE ASSESSMENT

Section 1
Purpose, Guidelines and
the Water Planning Process

Introduction and Purpose

Nevada is the driest state in the nation and one of the fastest growing. Water is Nevada's most precious resource, and more than any other resource, water will determine Nevada's future. The success of our economic endeavors, the sustainability of our rural communities and the protection of our environment are all dependent on the wise management of the state's water resources. Thus, comprehensive, coordinated and continuing water management planning is vital to our state's economic future and quality of life.

Development of the state water plan is required by the Nevada Revised Statutes (NRS 540.101.) In statute, the Legislature also declares that "it is the policy of the State of Nevada to continue to recognize the critical nature of the state's limited water resources" and acknowledges the increasing demands placed on these resources by growth. Further, the Nevada Legislature "recognizes the important role of water resource planning and that such planning must be based on identifying current and future needs for water" (NRS 540.011). Legislative review and consideration of the state water plan will provide additional legislative policy guidance to ongoing planning efforts.

The *Nevada State Water Plan* is designed to help guide the development, management and use of the state's water resources. The plan assesses the quantity and quality of Nevada's water resources, and identifies constraints and opportunities which affect water resource decision making. The plan looks at historical and current water use, and projects demands out to the year 2020. The most current and accepted hydrologic and socioeconomic data sets available are used to develop the plan's forecasts.

Along with providing data about water supplies and water use, the state water plan identifies pressing water management issues and recommends policy directions and actions designed to assist water managers throughout the state and all levels of government. Thus, the plan establishes a common base of knowledge and understanding which is critical if Nevadans are to reach consensus on future water management issues.

The state water plan is designed to be a policy and planning guide, not a water supply plan. Many of the decisions regarding how to meet a particular water supply objective are best determined and implemented at the local level. And in fact, many local governments have taken a close look at their own water supply needs and are now charting a course to meet those needs. Thus, while the plan

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summarizes local and regional water planning efforts, it focuses on a broad array of water planning issues which affect water planning, management and allocation of water resources statewide.

The key to development of the state water plan has been the establishment of a dynamic, flexible water planning process. Ongoing review and update of the plan is essential to ensure that we, as a state, successfully evaluate emerging issues and prepare ourselves to meet future challenges.

The state water plan's recommendations are addressed to a wide variety of agencies, organizations and decision makers. Thus, implementation of the plan's recommendations, subject to changing needs, will require a cooperative and coordinated effort. Prior to implementation, each of the plan's recommendations must be prioritized and evaluated for technical feasibility, and the costs and benefits of each must be identified and weighed. Implementation of the plan should assist local organizations and agencies with their own water planning, as well as help guide water management decisions at the state level. The plan's ultimate effectiveness will be judged by the extent to which its recommendations are incorporated into other state, local and federal planning efforts and agency actions.

Public input is vital to any planning process. The state's water planning process provides Nevada's residents with a unique opportunity to help decide how the state's water resources should be managed. The state water plan has been significantly enhanced by the willingness of Nevada's residents to participate in its development, and to share their thoughts, ideas and perspectives. At its heart, the state water plan is a valuable expression of public interest.

Statutory Authority

In 1995, the Nevada State Legislature amended Nevada Revised Statute (NRS) 540.101 and directed the Division of Water Planning to develop a state water plan. Following the 1997 legislative session, the Legislature sent the Division of Water Planning a "Letter of Intent" requesting the state water plan be submitted to the Legislature by February 15, 1999. That date was extended to April 1, 1999 to allow sufficient time to complete public review of the final draft.

The authority for the preparation of the State Water Plan is found in NRS 540.101 which states in part:

1. The Division [of Water Planning] shall develop a plan for the use of water resources in the state.
2. The Division shall coordinate with local governments in developing the plan pursuant to section
 1. Upon request of the Division, each local government shall cooperate with and assist the Division in the development of the plan.
3. The water plan developed pursuant to subsection 1 must include provisions designed to protect the identified needs for water for current and future development in the rural areas of the state, giving consideration to relevant factors, including but not limited to, the economy of the affected areas and the quality of life in the affected areas.
4. The Division shall submit to the Legislature for its review and consideration:
 - (a) The plan developed pursuant to subsection 1; and

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- (b) The recommendations regarding the plan provided to the Division by the advisory board on water resources planning and development pursuant to NRS 540.111.
The Division must obtain the approval of the Legislature before the plan is implemented.

The legislative declaration of policy establishes the importance of protecting existing water rights, supporting water conservation, the relationship between water supply and growth, and the role water planning plays in this, the driest state. It further establishes that water planning must focus on current and future water needs and that all levels of government must be involved in water planning.

Guidelines for the State Water Plan

The *Nevada State Water Plan* was developed in accordance with the legislative declaration of policy found in Nevada Revised Statutes (NRS) 540.011, and based on a series of “guiding principles” generated by the Advisory Board on Water Resources Planning and Development (Advisory Board). (See subsection below, *Participants in the Planning Process*, for a discussion of those involved in developing the state water plan.) The Advisory Board then assisted with developing the goals for the state water planning process and strategies for developing the state water plan.

Legislative Policy

NRS 540.011 establishes the basic legislative policy which has guided development of the state water plan:

NRS 540.011 Legislative declaration:

1. The legislature determines that it is the policy of the State of Nevada to continue to recognize the critical nature of the state’s limited water resources. It is acknowledged that many of the state’s surface water resources are committed to existing uses, under existing water rights, and that in many areas of the state the available groundwater supplies have been appropriated for current uses. It is the policy of the State of Nevada to recognize and provide for the protection of these existing water rights. It is also the policy of the state to encourage efficient and nonwasteful use of these limited supplies.
2. The legislature further recognizes the relationship between the critical nature of the state’s limited water resources and the increasing demands placed on these resources as the population of the state continues to grow.
3. The legislature further recognizes the relationship between the quantity of water and the quality of water, and the necessity to consider both factors simultaneously when planning the uses of water.
4. The legislature further recognizes the important role of water resource planning and that such planning must be based upon identifying current and future needs for water. The legislature determines that the purpose of the state’s water resource planning is to assist the state, its local governments and its citizens in developing effective plans for the use of water.

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Guiding Principles for the State Water Plan

At their January 6, 1994 meeting, the Advisory Board developed a set of 23 “guiding principles” to philosophically guide development of the State Water Plan. Some of the guiding principles reflect state law or state policy. Others reflect important water planning considerations identified during development of the state water. Later, in 1997, the Advisory Board condensed the guiding principles to these 11:

1. All water within the state, whether above or below ground, belongs to the public and its use is subject to a system of water rights administered by the State Engineer, and by state and federal court decrees and regulations.
2. Public education and public input is vital to statewide water resources planning.
3. The State Water Plan should integrate water supply, water quality, water use, and environmental issues, and should be used to guide decisions which affect water resources in the state.
4. The State Water Plan by design should be “growth neutral.” It should neither encourage nor restrict growth, and present no positions regarding the type, location or rate of growth.
5. Water right owners are entitled to buy, sell or trade their water rights to others under free market conditions. However, changes in the point of diversion, or place or manner of use must be approved prior to the change in accordance with the state water law, and state and federal court decrees and regulations.
6. The water resource needs of future generations of Nevadans should be protected by balancing economic goals with social, aesthetic, cultural and ecological values.
7. All water resource projects should be technically, environmentally and economically sound, and consistent with state law.
8. The State Water Plan should help integrate and coordinate the water planning and management activities of local, state and federal agencies.
9. The relationship between groundwater and surface water must be recognized in the State Water Plan.
10. Water conservation is an important component in the planning and management of the State’s Water Resources.
11. Watershed planning efforts should be encouraged and should include representatives of all agencies, municipalities, political subdivisions, water users and any others with an interest in the planning and management of a watershed.

Planning Goals

Following development of the guiding principles, the Advisory Board and the Department of

Conservation and Natural Resources (DCNR) Steering Committee developed a number of goals and strategies for the planning process and the state water plan. As the plan evolved, so too did the goals and strategies. In general terms, the goal of the state water planning process is to make water planning and water decision making in Nevada *better*: more efficient, more effective and more inclusive. Following are results we hope to achieve through the water planning process and development of the state water plan:

1. **Water Supply:** Enough water of sufficient quality for future generations
2. **Water Rights:** Protection of existing water rights
3. **Economic Efficiency:** The preferential use of water for greatest economic gain to the state
4. **Conservation:** More conservation and less waste of water
5. **Water Quality:** Protection and enhancement of water quality
6. **Rural Water Supplies:** Protection of water supplies for current and future development in rural areas
7. **Environmental Quality:** Protection and enhancement of the environment
8. **Efficiency:** Agency actions which are coordinated and integrated to save money and time, reduce duplication in projects or services, address gaps in resource protection, and result in better decisions
9. **Decision making:** Less litigation and more cooperative decision making to resolve water resource issues
10. **Effectiveness:** More informed water resource decision making, with a greater awareness of aesthetic, cultural and ecological values
11. **Sound Science:** Water resource projects which are technically, environmentally and economically sound
12. **Public Involvement:** A better educated citizenry and more public participation in water resource decision making
13. **Quality of Life:** A higher quality of life for all Nevadans

Each update of the state water plan should bring us closer to reaching these goals. It is important to note that some of the goals may conflict, or appear to conflict, with one another. For example, economic efficiency may appear to be in direct conflict with environmental protection. However, there is growing recognition that environmental protection is actually an essential component of economic development. Economic and environmental *sustainability* is the emerging goal of many communities. Clearly, for a state that is now ranked in the top three in the country as a vacation destination, environmental quality goes hand-in-hand with economic efficiency. It is one of the roles of the water planning process to seek a balance among competing goals so that the plan's overall goal of better water management is achieved. Public involvement in the water planning process has been the key to achieving a balance which reflects the evolving interests and will of the citizenry. **Plan Components**

The primary elements to be included in the State Water Plan were derived from NRS 540.051, Duties

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of the Division of Water Planning and NRS 540.101, Development, contents and implementation of the [state water] plan. Statutory plan components include: (1) providing arid regions with information, alternatives and recommendations including courses of planning and actions for acquiring additional water or for conserving water, (2) investigation of new sources of water such as desalinization, importation, and conservation, (3) consideration of issues of water quantity and quality simultaneously, (4) development of forecasts of future supply and demand, (5) inclusion of provisions designed to protect the need for water for current and future development in the rural areas of the state, considering the economy and quality of life in the affected areas, and (6) the development of recommendations to the Legislature to improve state water policy. Additional plan components were added as a result of input from the Division's Advisory Board, Department of Conservation and Natural Resources staff and the public.

Major State Statutory Policies Affecting the Water Planning Process

Following is a summary of the major legislative policies, declarations and other statements in the Nevada Revised Statutes (NRS) that affect water planning and management in Nevada. Each NRS citation has been assigned to only one of the main categories, although the statute may address issues within two or more categories.

Water Supply and Allocation

- 533.024 "The legislature declares that it is the policy of this state:
14. To encourage and promote the use of effluent, where that use is not contrary to the public health, safety and welfare, and where that use does not interfere with federal obligations to deliver water of the Colorado River."
 15. In a county whose population is less than 400,000 to recognize the importance of domestic wells as appurtenances to private homes, to create a protectible interest in such wells and to protect their supply of water from unreasonable adverse effects caused by municipal, quasi-municipal or industrial uses."
- 533.025 "The water of all sources of water supply within the boundaries of the state whether above or beneath the surface of the ground, belong to the public."
- 534.020 (1) "All underground waters within the boundaries of the state belong to the public, and, subject to all existing rights to the use thereof, are subject to appropriation for beneficial use only under the laws of this state relating to the appropriation and use of water and not otherwise."
- 540.011 (1) "...It is acknowledged that many of the state's surface water resources are committed to existing uses, under existing water rights, and that in many areas of the state the available ground water supplies have been appropriated for current uses. It is the policy of the State of Nevada to recognize and provide for the protection of these existing rights..."
- 541.030 (2)(a) "It is therefore declared to be the policy of the State of Nevada:
- (a) To control, make use of and apply to beneficial use unappropriated waters in this state to a direct and supplemental use of such waters for domestic, manufacturing, irrigation, power and other beneficial uses."

Water Quality

- 445.132 1. The legislature finds that pollution of water in this state:
- (a) Adversely affects public health and welfare:

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- (b) Is harmful to wildlife, fish and other aquatic life; and
 - (c) Impairs domestic, agricultural, industrial, recreational and other beneficial uses of water.
2. The legislature declares that it is the policy of this state and the purpose of NRS 445.131 to 445.354, inclusive:
 - (a) To maintain the quality of the waters of the state consistent with the public health and enjoyments, the propagation and protection of terrestrial and aquatic life, the operation of existing industries, the pursuit of agriculture, and the economic development of the state; and
 - (b) To encourage and promote the use of methods of waste collection and pollution control for all significant sources of water pollution (including point and diffuse sources)."

Environmental and Recreational Uses

501.100 "1. Wildlife in this state not domesticated and in its natural habitat is part of the natural resources belonging to the people of the State of Nevada.
2. The preservation, protection, management and restoration of wildlife within the state contribute immeasurable to the aesthetic, recreational and economic aspects of these natural resources."

527.260 (1)(b) "The legislature finds that:
(b) The people of the State of Nevada have an obligation to conserve and protect the various species of flora which are threatened with extinction."

Water Use Efficiency

534.020 (2) "It is the intention of the legislature, by this chapter to prevent the waste of underground waters and pollution and contamination thereof ..."

540.011 (1) "...It is also the policy of the state to encourage efficient and nonwasteful use of these limited supplies."

Water Planning and Management

540.011 "1. The legislature determines that it is the policy of the State of Nevada to continue to recognize the critical nature of the state's limited water resources...
2. The legislature further recognizes the relationship between the critical nature of the state's limited water resources and the increasing demands placed on these resources as the population of the state continues to grow.
3. The legislature further recognizes the relationship between the quantity of water and the quality of water, and the necessity to consider both factors simultaneously when planning the uses of water.
4. The legislature further recognizes the important role of water resource planning and that such planning must be based upon identifying current and future needs for water. The legislature determines that the purpose of the state's water resource planning is to assist the state, its local governments and its citizens in developing effective plans for the use of water."

541.030 (2)(b) "It is therefore declared to be the policy of the State of Nevada:
(b) To cooperate with the United States and agencies thereof under the federal reclamation laws or other federal laws now or hereafter enacted and to construct and finance works within or without the State of Nevada as herein defined and to operate and maintain the same."

543.020 "It is hereby declared to be the policy of the State of Nevada to cooperate with the United States and its departments and agencies, and with the counties, cities and public districts of the state, in preventing loss of life and property, disruption of commerce; interruption of transportation and communication and waste of water resulting from floods, and in furthering the conservation, development, utilization and disposal

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of water.”

548.095 “It is hereby declared, as a matter of legislative determination:

1. That the renewable natural resources of the State of Nevada are basic assets.
2. That they are being affected by the ever-increasing demands of farm and ranch operations and by changes in land use from agricultural to nonagricultural uses, such as, but not limited to, residential and commercial developments, highways and airports.
3. That conservation, protection, and controlled development of these renewable natural resources are necessary at such rate and such levels of quality as will meet the needs of the people of this state.”

548.100 “It is hereby declared, as a matter of legislative determination, that the consequences of failing to plan for and accomplish the conservation and controlled development of the renewable resources of the State of Nevada are to handicap economic development and cause degeneration of environmental conditions important to future generations.”

548.110 “It is hereby declared to be the policy of the legislature to recognize the ever-increasing demands on the renewable natural resources of the state and the need to conserve, protect and develop such resources at such levels of quality as will meet the needs of the people of the state.”

The Planning Process

The 1999 *Nevada State Water Plan* was developed over a period of 4-1/2 years (between late 1994 and January 1999) with the involvement of thousands of Nevada citizens. The Division of Water Planning has taken the lead, assisted by the Advisory Board on Water Resources Planning and Development, staff from the various agencies of the Department of Conservation and Natural Resources, and input from state, local and federal agencies and the public.

The steps in the water planning process were as follows:

- solicit public input to determine the scope of the plan and the issues to be addressed
- develop and update basic hydrologic and socioeconomic data sets
- analyze the water resources institutional framework
- forecast the state’s population and anticipated economic trends over the next 20 years
- forecast future water needs over the next 20 years
- inventory water supplies presently available
- inventory resources already committed (permits, vested rights, etc.)
- research additional possible sources of supply
- identify alternate scenarios to meet the water needs of the state
- identify issues that affect water use, allocation and management
- develop and evaluate policy and programmatic recommendations to address the issues
- solicit public input throughout plan development to gauge the relevancy of the issues and the appropriateness of recommendations
- present comprehensive plan with recommendations to the state legislature for review and approval

Once the state Legislature approves the Plan, the Division of Water Planning will communicate plan recommendations to agencies or individuals who are in the best position to further evaluate and

implement them. In some cases, the Division will establish new working groups or task forces to help determine the best approach to plan implementation. It is anticipated that the Water Planning Advisory Board will continue to advise the Division and assist in plan implementation. The Division will be responsible for tracking the progress of plan implementation and evaluating the effectiveness of plan recommendations. Subsequent updates of the Plan will include an evaluation of the state's progress in implementing the Plan's recommendations.

Participants in the Planning Process

Many individuals, organizations and agencies participated in development of the State Water Plan. Plan participants and their roles in plan development are briefly described below.

The Public. Extensive public involvement has been key to development of the State Water Plan. The public's opinions, thoughts, and recommendations have been solicited during every phase of the planning process. In 1992, prior to initiation of the 1999 State Water Plan, more than 800 Nevadans participated in a series of Water Policy Forums sponsored by the Nevada Cooperative Extension, the Nevada Humanities Committee and others. The results of these forums were tabulated in a report titled *Nevada's Water Future: Making Tough Choices*. This report, representing a diversity of views, was useful in the early stages of plan development and in generating options to address water issues.

In 1994 and 1995, more than 600 citizens participated in 20 public workshops sponsored by the Division of Water Planning. The purpose of these workshops was to educate the public on Nevada water law and the water planning process, and to get an early sense of the public's perception of key issues such as interbasin transfers. These scoping sessions were useful to the Division in establishing the breadth and scope of the plan.

Governor's Office. The Governor and his staff have provided executive sponsorship during plan development. Starting with the 1990 biennial report, the Governor addressed the need for development of a new state water plan as one of the most critical issues facing the state. In discussing the need for natural resource planning, the report states:

Tantamount among these plans is the development of a statewide water management plan, especially as related to intercounty and interbasin transfers, projection of water needs, the outline of conservation methods, development of drought contingency plans and information on regulations to conserve water usage. (p. 5, *Perspectives: A Biennial Report of Nevada State Agencies - 1990*)

Subsequent biennial reports have continued to underscore the need for a state water plan and to reiterate the Governor's commitment to statewide water planning.

Division of Water Planning. Between 1993 and 1997, the Division of Water Planning compiled socioeconomic and hydrologic databases and wrote more than 25 publications (see Table 1–1) to serve as a basis for the water plan. Key documents produced during that period included the *Nevada Water Words Dictionary*, the *DRAFT State Water Policy*, reports on water usage by sector, three detailed water basin *Chronologies*, and the *County Graph and Data Books* and *Socioeconomic Overviews*.

In 1994, the Division completed the early public scoping meetings which served to help prioritize the state water plan elements. The Division went on to develop drafts of the *State Water Plan*, and then finalized the draft to be presented to the Legislature. Almost all Division staff were involved in this work effort, from plan conceptualization to final editing. The Division also provided staff support to the Advisory Board on Water Resources Planning and Development, conducted public outreach efforts and organized technical work group and steering committee meetings.

Technical Working Group. In 1994, a 20- member interagency working group composed of state and federal agencies met over an 11- month period to frame the issues, generate ideas and develop options. The perspectives of this working group were drafted into issue papers which formed the basis of the policy recommendations contained in the *DRAFT State Water Policy*, produced in March 1995.

DCNR Steering Committee. In 1995, staff from Divisions within the Department of Conservation and Natural Resources formed a high-level departmental oversight committee to support development of the State Water Plan. This group, which included the Director and Assistant Director of the Department and staff from the Divisions of State Lands, Environmental Protection, Wildlife, Water Resources and Water Planning, and the Natural Heritage Program, provided insight into the laws, regulations and issues within their jurisdictions, recommended approaches to the planning and obtaining public input, evaluated existing state water policies and recommended changes. This steering committee was essential in setting the tone, pace and direction of the plan. Altogether, the DCNR steering committee members committed over 1700 hours to plan development.

Advisory Board on Water Resources Planning and Development. To advise the Division in matters relating to planning and development of water resources, NRS 540.111 establishes the Advisory Board on Water Resources Planning and Development (Advisory Board.) In 1995, the Legislature passed SB 101, which among other things, enlarged the Advisory Board from 13 to 15 members, and changed its composition. The Board for Financing Water Projects, formally ex-officio members of the Advisory Board, was separated to form a stand alone board, and new Advisory Board positions were opened up for representatives of mining, ranching, agriculture, conservation and the general public. The number of Washoe County representatives was also increased.

As a follow-up to the enactment of SB 101, in 1996 the Governor appointed a new set of Advisory Board members (see p viii for the list of members), only 4 of whom had served on the previous Advisory Board. The current composition of the Advisory Board on Water Resources Planning and Development is as follows:

- Six** members representing the governing bodies of the county with the largest population in the state [Clark County] and the cities in that county;
- One** member representing the largest water utility in the county with the largest population in the state [the Las Vegas Valley Water District];
- Two** members representing the county with the second largest population in the state [Washoe County] and the cities in that county;
- One** member representing the largest water utility in the county with the second largest population in the state [Sierra Pacific Power Company];

- One** member representing the general public; and
- Four** members, each representing a different one of the following interests:
 - (1) Farming;
 - (2) Mining;
 - (3) Ranching; and
 - (4) Wildlife.

The Governor is to make the Advisory Board appointments so that at least seven members are residents of Clark County, three members are residents of Washoe County and at least three members are residents of counties which have a population less than 100,000. Altogether, the Advisory Boards held more than 25, one-to-two day meetings to participate in development of the state water plan. The Advisory Board meetings were always publicly advertised and open to public comment, and occasionally the Advisory Board held special workshops to solicit public comment in a more formal setting.

Pursuant to NRS 540.111, one of the Advisory Board's roles is to make recommendations to the Division concerning their level of concurrence with the content, findings and recommendations of the *State Water Plan*. The Division is to then submit the Advisory Board's recommendations to the Legislature with the *Plan*. The time and effort contributed by the Water Planning Advisory Board has been invaluable in bringing the Plan to fruition.

Department of Conservation and Natural Resources Advisory Board. The Department of Conservation and Natural Resources maintains its own Advisory Board. The seven DCNR Advisory Board members each represent one of the following interests: (1) general public, (2) state park users, (3) agricultural industry, (4) mining industry, (5) outdoor recreationists, (6) forestry/fire control, and (7) conservation. This Advisory Board has frequently reviewed *State Water Plan* drafts and provided advice and counsel as to the plan's content and the planning process.

Interest Groups. Many interest groups have been active in the development of the *State Water Plan*. Groups such as the Nevada Farm Bureau, Nevada Cattlemen's Association, Northern Nevada Conservation Forum, Southern Nevada Homebuilders Association, and the League of Women Voters have sponsored workshops on the plan and/or commented formally on plan work products.

Local Governments. Local government input has been critical to the planning process. The Division Administrator or staff met personally with 16 of the 17 County Commissions, and the Southern Nevada Water Authority in Clark County, to update them on plan progress, request review of key work products, and request their participation in meetings of the Water Planning Advisory Board. Nearly all county commissions sent representatives to participate in Advisory Board meetings and to provide input on local water issues.

State Legislature. The Nevada State Legislature plays a significant role in the water planning process. The Legislature initiated the water planning program and has set time frames for plan completion. The Legislature has also provided guidance for plan development via its declaration of legislative intent at the start of NRS 540, the water planning statute. Legislative committees have requested periodic briefings on plan progress, and individual Legislators have shown a special interest by participating in scoping sessions and public workshops, submitting comments on the plan

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or by requesting additional information. When it is finalized, the *Nevada State Water Plan* will be presented to the 1999 Legislature for their review and consideration as required by NRS 540.101.4.

Federal Agencies. Federal agencies have been involved in plan development. Federal agency staffs made presentations to the Advisory Board on regional water issues, served on technical working groups, assisted in development of some issue papers, and commented on plan drafts. Federal agencies such as the U.S. Geological Survey, Bureau of Land Management, U.S. Forest Service, U.S. Fish and Wildlife Service and Natural Resources Conservation Service made significant contributions.

Plan Formulation and Review

Division of Water Planning staff researched and produced data compilations and publications as a preliminary step in developing the state water plan. As publications were finalized and sections of the *State Water Plan* were developed, they were reviewed by the DCNR Steering Committee, the Water Planning Advisory Board and the DCNR Advisory Board. Public comment was always solicited at meetings of both Advisory Boards. Once portions of the plan were in agreed upon draft form, the drafts were sent out for public review and comment. Typically, workshops were held to explain plan sections and to elicit comment from the public.

From this intensive review, public involvement and consensus building process, the *State Water Plan* has taken shape. The plan that has emerged is directed toward the development, adoption and implementation of a variety of programs, projects and policies designed to better utilize, conserve and protect the state's most valuable natural resource. However, the planning process not only resulted in the 1999 *State Water Plan*, but also in a strong consensus regarding the need to keep the water planning process alive, funded and connected to the state's water resource decision making processes and programs.

Public Comments on the Water Plan Drafts

An interim draft of the state water plan was released during the summer of 1998. This draft included many of the background and introductory plan sections, along with the basic data which formed the foundation of the plan. The goal of this early review period was to reach consensus on the data used to develop the plan, before moving on to addressing the more complex issues and recommendations in later plan sections. Six public workshops were held during this time. The Division also made presentations to 15 of the 17 county commissions, the Southern Nevada Water Authority in Clark County and the Carson City Board of Supervisors to update them on the plan, solicit their continuing assistance in plan development and receive their preliminary thoughts and comments.

The final public review draft of the state water plan was released at the end of January 1999 and the review period extended to March 8, 1999. Over 1000 copies of the draft state water plan were distributed for public review and comment . Drafts of the plan were also made available through the Division of Water Planning's website. During this time, seven public workshops were held to review the plan's recommendations and solicit public input. Additional presentations were made before various legislative committees, interested organizations and state advisory boards, working groups and commissions. Altogether, over 50 public workshops were held and presentations made on the

plan throughout the 4 ½ year planning cycle.

The Division received 39 written comments on the final public review draft of the water plan and many additional comments at public workshops. At the end of the final comment period, all of the comments received were entered into a database. The use of a database enabled the Division to more closely evaluate and analyze the comments, and to ensure that all comments on a topic were evaluated together and addressed appropriately and consistently.

Comments were provided by agricultural and rural interests, wildlife and environmental interests and agencies. Relatively few comments were received from urban interests. Of the 39 letters received 10 were from special interest groups, 8 from individuals and one from a business (mining). The other 21 letters were from local (9), federal (8) and state (1) agencies, irrigation districts (2) and tribes(1). Comments were directed most frequently to the issues and recommendations contained in the issue papers, to the data used in the plan and in some cases, to the findings (particularly the projected decrease in agricultural water use.) While some comments focused on edits or data corrections, a large number provided policy, philosophical or analytical perspectives, especially regarding growth, interbasin transfers and the importance of water planning to the state. Many comments recognized the significant work effort that went into developing the 1999 water plan and found it to be a valuable resource.

Issues given the greatest attention by commenters, both pro and con, included:

- ★ conservation and credit for conservation
- ★ water resources data collection, management and distribution
- ★ integrated water management
- ★ water measurement and estimation
- ★ interbasin and intercounty transfers
- ★ instream flows and water for wildlife and the environment
- ★ local vs. state water planning

A number of the comments addressed the planning principles utilized in the plan or the plan's goals. The commenters generally noted the difficulty in developing a plan based on very general, and sometimes conflicting, goals. The water plan's goals and guiding principles were the subject of much discussion and debate early in the planning process by the Advisory Board, and were reconsidered at various points during development of the plan. Therefore, while the comments on these areas were acknowledged, the plan's goals and guiding principles were not revised.

Frequently, comments conflicted with one another. For example, some comments questioned the need for a water plan and supported the status quo. These commenters believe that the current system is working and a state water plan is not necessary. Others applauded the water plan as a critical step in proactively planning and managing the state's water resources. Another example related to the use of data in the plan. Some groups wanted the plan to include the most current data available, even if that meant that data sets weren't comparable between counties. Others wanted data sets standardized to a particular year, even if that meant that older "vintage" data was used in lieu of the latest available data. Some felt that since some of the data sets have weaknesses, no conclusions should be drawn in the plan, while others were comfortable with use of the best available data to

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forecast future water use.

Environmental organizations wanted to see more emphasis on managing growth and implementation of water conservation technologies, while others felt the plan should stay away from growth issues altogether and that conservation was a good idea but should not be mandated. (The plan is designed to be growth neutral, but does make strong recommendations to enhance water conservation in the state.)

Some comments expressed philosophical opposition to interbasin transfers, going so far as to suggest that they be banned altogether, while others felt that water transfers represented THE solution to the state's water supply problems. Some comments suggested that the water plan should express a vision of the future on a variety of topics including concepts such as sustainability, watershed planning and biodiversity. (The plan does discuss watershed planning in depth and recommend its greater usage, but only addresses issues of biodiversity or sustainability in the context of other issues.)

Concern was expressed about the role of the plan, and whether it is to be considered a mandate. However, the plan is clearly designed to be an education, planning and policy tool which makes recommendations to enhance future water management. In and of itself, the plan is not a new law, nor does it change existing water rights or reallocate water rights in any way. Projections of future water use are simply projections based on existing trends, and do not assume sweeping changes in our economy. It is anticipated that the market for water rights will drive any transfers of water rights.

A number of agricultural groups felt the plan should highlight the importance of agriculture to the state and its value in enhancing wildlife habitat, open space and rural quality of life. However, the plan does not advocate the value of any one water use or economic endeavor over another.

Comments expressed concern about the lack of water rights for maintenance of instream flows, the habitat of endangered and threatened species and the environment in general. They felt the state should assume a more active role in purchasing water rights for environmental water uses and in protecting habitats. On the other hand, a number of rural counties considered the plan's recommendations for purchase of water rights as "alarming", and a threat to their tax base. They suggested assisting irrigators in maintaining minimum pools on their own land by, for example, purchasing hay for them in dry years to prevent a reduction in stream flows at critical times.

Domestic wells were mentioned by quite a few commenters. Concerns were expressed about definition and protection of the legal rights of domestic well owners (who are not required by law to have a water right until their use exceeds 1800 gallons per day). Other comments included the view that domestic wells should be a local issue only, not a state issue, and a request for state funding support if domestic wells are required to hook up to regional water systems by the state.

A number of commenters concurred with the plan's recommendations to enhance water education, support watershed planning, develop better data, measure water use more accurately, do better flood planning and management, provide greater water planning assistance to local governments and ensure that the public remains closely involved in both state and regional water planning.

All comments were carefully reviewed and incorporated into the plan wherever possible. It is

noteworthy that many of the issues raised by commenters had been discussed at length by both the Steering Committee and the Advisory Board during plan development. Thus, while these comments did not highlight new issues, they did validate the planning and public input process that was utilized. Some commenters did raise issues which were not specifically addressed in the plan. Recommendations for subjects to be addressed, or more thoroughly addressed, in future plans are listed below. It is the intent of the Division of Water Planning to include these issues in future plan updates:

- ★ mine dewatering
- ★ integrated management of surface and ground water
- ★ conflict resolution
- ★ better identification of environmental water needs
- ★ more thorough discussion of various types of water storage
- ★ dam safety
- ★ better assessment of perennial yield and restoration of over utilized aquifers

Comments received on the final public review draft of the *Nevada State Water Plan*, as well as the comment database, are available for review at the Division of Water Planning's office in Carson City.

Previous Water Planning Efforts

The state water planning program began in the 1960's. In 1967 the Nevada Legislature directed the Division of Water Resources within the Department of Conservation and Natural Resources to determine Nevada's future water needs and available water resources. The Legislative Commission was directed to study future statewide water needs and it appointed a special Legislative Subcommittee to undertake the study. The State Engineer and the Subcommittee jointly recommended the establishment of a separate section within the Division of Water Resources to carry out the necessary planning studies, and specific legislation to establish the statutory authority to implement the program.

The 1969 Legislature authorized development of a comprehensive water resource plan for Nevada through an amendment to NRS 532, and made an appropriation to the Division of Water Resources to develop a planning section. The 1973 Legislature required the State Engineer to complete the water resource plan and submit it to the 1975 legislative session. The first state water plan, *Water for Nevada*, was completed and published by November 1974. The state water planning program was active until the early 1980's, although with a dwindling staff. In 1982 the program was all but eliminated due to severe funding shortages.

The water planning program was re-instituted in 1989 through the efforts of Assembly Speaker Joe Dini and like-minded legislators who were increasingly concerned about Nevada's rapidly growing population and the lack of a current plan to identify additional water resources to satisfy demands. There was also concern regarding the lack of flood, conservation and drought planning. Thus, the present day Water Planning Division was created under NRS 540 and a small staff was hired by 1991.

Nevada State Water Plan

Since 1991, the Division of Water Planning has produced over 30 publications in support of the *State Water Plan* (as well as numerous publication updates and revisions); initiated a water education program and Internet home page; obtained grant funding to coordinate water planning activities in the Walker River Basin; assisted local governments in their water planning efforts; awarded over \$20 million in grants to small water systems; and sponsored numerous water resource conferences and workshops. In 1997 the Division received state and federal appropriations to initiate a flood planning and grant program.

The 1999 *Nevada State Water Plan* completes the latest cycle of statewide water planning. Following approval of the plan, the Division will turn its attention to developing a handbook for regional water planning and begin developing specific water management plans for the various hydrographic regions in Nevada.

Organization of the Nevada State Water Plan

The 1999 *Nevada State Water Plan* is being produced in six volumes:

- A *Summary* presents highlights of the State Water Plan's findings, with an emphasis on recommended legislative water policy and program initiatives.
- The main body of the *State Water Plan* includes an inventory, assessment and issue analysis of water resources in Nevada. It establishes the regulatory, historical and institutional framework affecting water planning and management within the state, provides the socioeconomic context within which water decisions are made, projects population and economic trends affecting water use, forecasts future water needs, identifies current water issues and presents recommendations to address those issues. The main body of the *State Water Plan* is divided into 3 parts as follows:

Part 1 – Water Resources Background and Assessment

Part 2 – Water Use and Forecasts

Part 3 – Water Planning and Management Issues

- Two *Technical Data Appendices* which contain the detailed planning data and forecasts of the State's counties, cities and hydrographic basins (also available upon request in an electronic format).

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